

Sprint Nextel



Together with NEXTEL

Wireless Enhanced 911 – An Overview

A Discussion of the Capabilities and Limitations of Wireless
E911 Accuracy

November 14, 2007

Agenda

- > A discussion of current deployed technology
- > Overview of current accuracy performance
- > Assessment of alternative technologies

Simplified Phase II Architecture Assisted GPS Handset System



LEC
Selective
Router



MPC/
PDE

National
ALI

Regional
ALI

WARN
Network

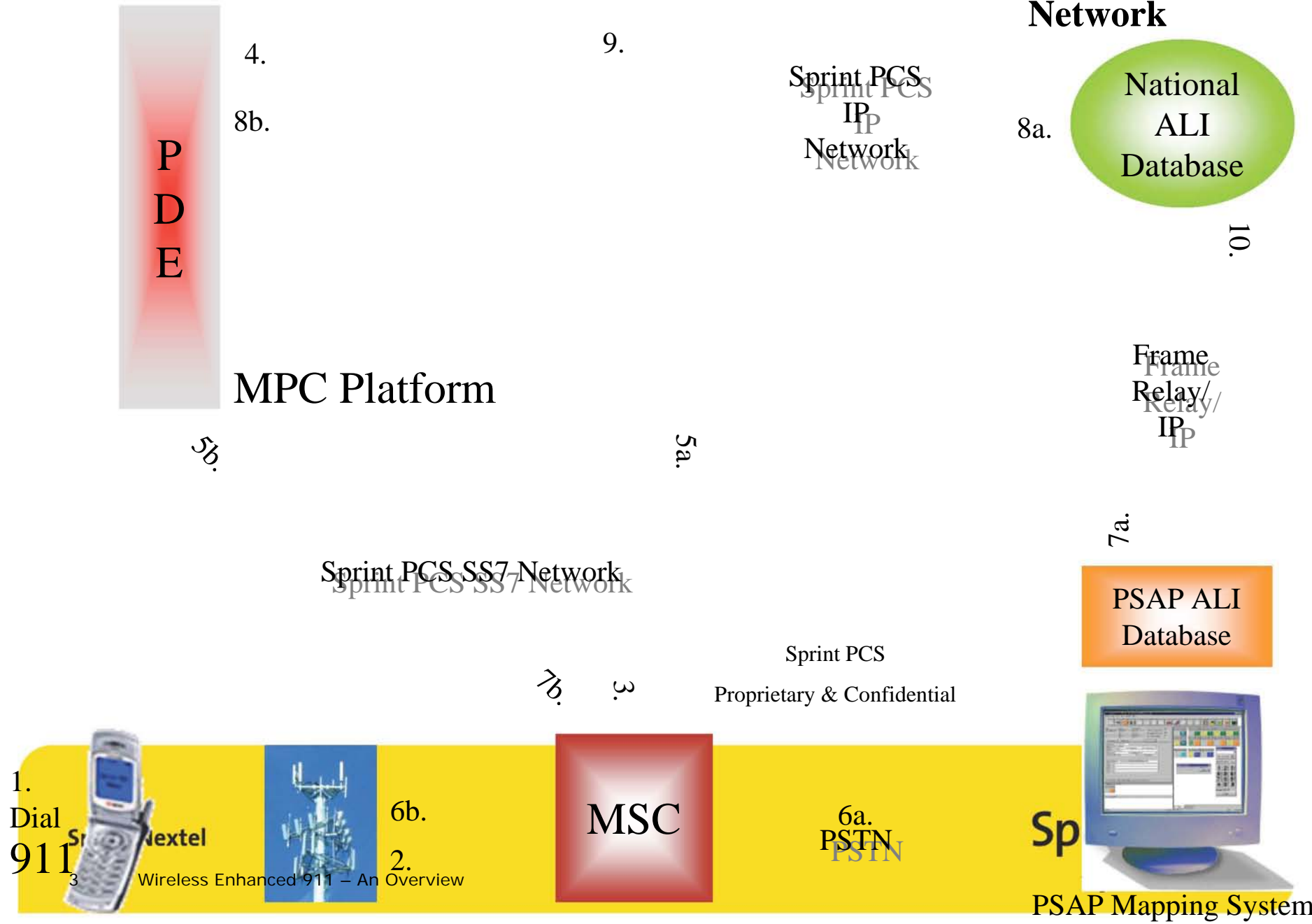
Satellite

Satellite

Satellite

Sprint PCS Network

Non- Sprint PCS Network



3-12 Satellites

Satellite

Satellite

Satellite

1. GPOSREQ

10. gposreq



5. DataBurst

7. DataBurst

6. Determines
pseudo-ranges
of 3-12 Satellites or
Base stations

4. SMDPP

8. smdpp

Serving
MSC

9. Internal
Calculations

PDE

24 Satellites

Satellite

Satellite

Satellite

Satellite

2. IP

3. IP

Reference
GPS
(WARN)

ORREQ Invoke and Return Response Example

**SPCS Subscriber,
in Rhode Island,
Dial 911!!!**

**Primary MPC
MI**

MSC

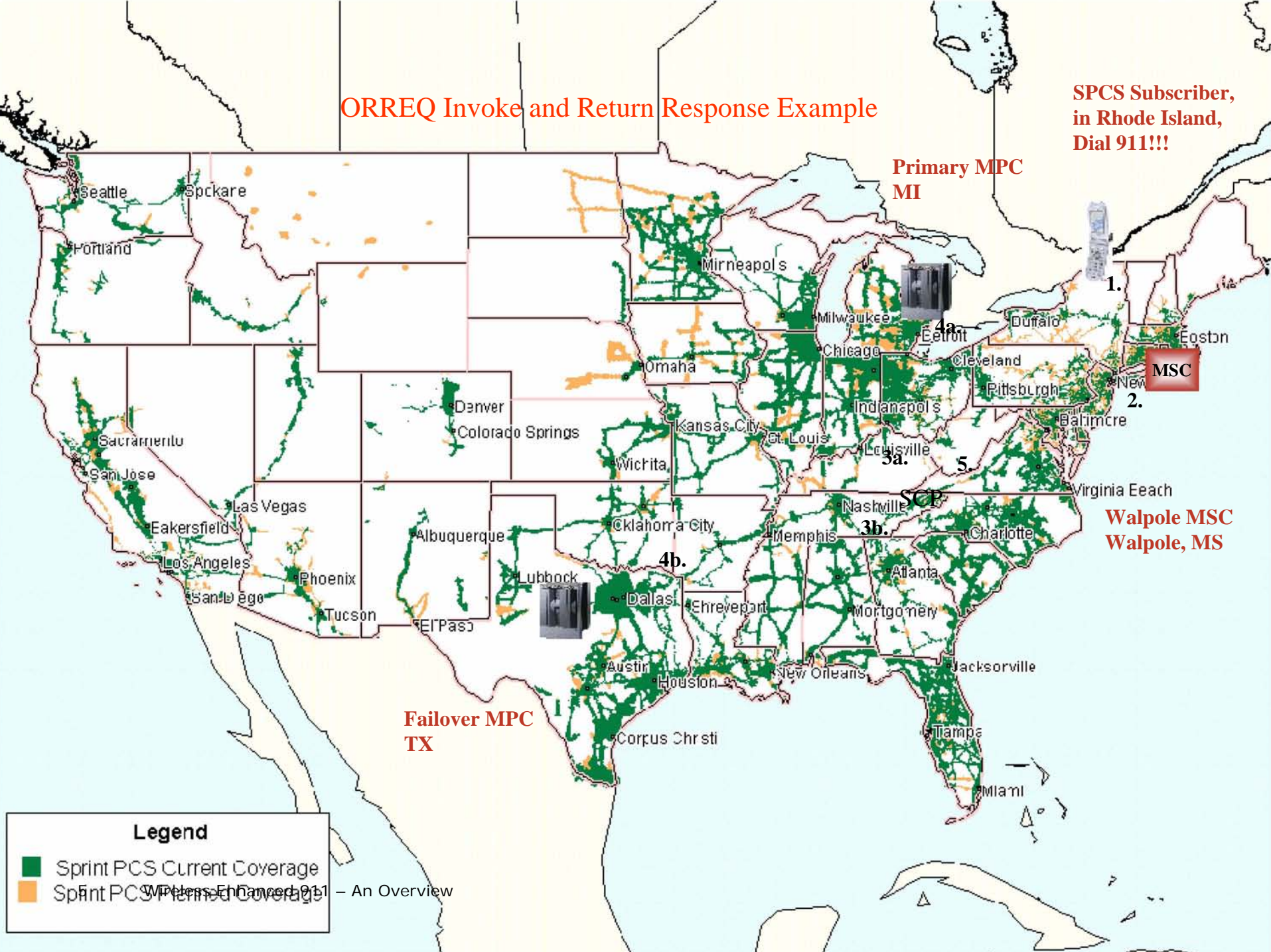
**Walpole MSC
Walpole, MS**

**Failover MPC
TX**

Legend

- Sprint PCS Current Coverage
- Sprint PCS Pending Coverage

WPeters-EH-Danver-911 - An Overview



PSAP interaction and Precision Location retrieval

Walpole MSC
Walpole, MS

Primary MPC
MI

MSC

7.

10a.

9a.

National
ALI
Database

11.

8.

Rhode Island
PSAP

Failover MPC
TX

Legend

- Sprint PCS Current Coverage
- Sprint PCS Planned Coverage

W. Peters, Enhancements – An Overview

Current Accuracy

- > Project Locate testing errors and actual results
- > Sprint testing operations
 - Current systems provide very accurate information on the vast majority of calls regardless of topology or size of the PSAP

Alternative Technologies

- > Almost all are based upon the same technology used today:
 - AGPS
 - Network Triangulation
- > Any solution which requires handset replacement is unrealistic
 - Current penetration rate/no growth
 - Churn assumptions
 - Number of models to be replaced
 - 200 million handsets/10 years
- > Network solutions involve similar issues
 - 200,000 cell sites
- > No proposed solution resolves rural indoor coverage
- > Role of the individual carrier in future deployment